

Remarks

Applicants acknowledge with appreciation the Examiner's withdrawal of the 35 U.S.C. § 102(b) rejection of the claims over Smith et al., United States Patent 4,673,523.

The Amendments

Applicants have amended claim 37 to recite that the rate of penetration and removal effectiveness are calculated. This amendment is supported in the specification. See, e.g., page 17, line 13 through page 18, line 17.

Applicants have cancelled claim 38 from the present application.

These amendments do not add new matter.

Applicants request reconsideration of the above-identified application in view of the foregoing amendments and the following remarks.

The Rejection of Claims 1-6, 8-20, 22-25, 27-31 and 33-36 Under 35 U.S.C. § 102(b)

The Examiner has maintained the rejection of claims 1-4, 6, 8-10, 12-20, 22-24, 28-31, and 33-36 under 35 U.S.C. § 102(b) as allegedly being anticipated by Cable, United States Patent 6,432,897 (hereinafter "Cable"), Choy et al., United States Patent 5,851,981 (hereinafter "Choy"), Masters, United States Patent 5,362,422 (hereinafter "Masters"), and Church et al., United States Patent 4,673,523 (hereinafter "Church"). The Examiner has maintained the rejection of claims 5, 25, and 27 under 35 U.S.C. § 102(b) as allegedly being anticipated by Cable, Choy, and Masters. The Examiner has maintained the rejection of claim 11 under 35 U.S.C. § 102(b) as allegedly being anticipated by Cable, Choy, or Church. The rejections are respectfully traversed. Applicants discuss the rejections individually below.

Cable

The Examiner states that Cable provides "a general teaching" of compositions containing no more than about 1% alcohol. Office Action, page 2, paragraph 5. In support, the Examiner points to the following disclosure in Cable:

"it is preferred to limit the total amount of solvent to no more than 50%, more preferably no more than 25%, and most preferably, no more than 15%, of the cleaner. However, in some of the compositions of the invention, no solvent may be present. A preferred range is about 1-15%, ..."(emphasis added by the Examiner).

First, Cable is not a patent occurring "more than one year prior to the date of application for patent in the United States" for purposes of 35 U.S.C. § 102(b). Cable issued August 13, 2002, which is *after* applicants' October 26, 2001 filing date. Thus, Cable is not a proper 35 U.S.C. § 102(b) reference against the subject matter of applicants' claims.

Second, even if Cable was available as prior art under another provision of 35 U.S.C. § 102, it does not anticipate applicants' claims. This is so because Cable does not disclose the claimed range of total alcohol content with the "sufficient specificity" required to anticipate a specific example within a range. See, MPEP 2131.03. ("If the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range ... it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims.")

The portion of Cable that the Examiner relies on discloses no more than a nonspecific, broad range for alcohol content. In particular, Cable generally discloses the following amounts of alcohol: (a) no more than 50% (*i.e.*, 0 to 50%), (b) no more than 25% (*i.e.*, 0-25%), (c) no more than 15% (*i.e.*, 0-15%) and (d) none (*i.e.*, 0%). There is nothing in Cable that teaches or suggests using alcohol in the instantly claimed ranges. In particular, none of the specifically exemplified compositions have a total alcohol content of not more than about 1%. Each of Cable's compositions contains 4.0% isopropanol and

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2.50% ethylene glycol monobutyl ether (*see, e.g.*, Table 1, col. 8). Thus, Cable does not disclose applicants' claimed range with the "sufficient specificity" required for anticipation.

Importantly, prior to applicants' discoveries, it had been suggested that lowering the volatile organic compound content of traditional cleaning compositions limits their effectiveness and/or range of applications. See, specification page 2, line 15 to page 3 line 2. Applicants have discovered, for the first time, hard surface cleaning compositions that advantageously comply with the new volatile organic compound restrictions, while, at the same time, are effective hard surface cleaners. See, *e.g.*, specification page 7, lines 5-16; pages 20-27. Applicants' compositions exhibited superior cleaning performances, having high penetration rates and removal effectiveness as calculated in the Evaluation Test Method. In particular, Example 10 has a removal effectiveness of 100% and a rate of penetration of 1 unit at room temperature. See also, Examples 17, 27 and 31 at specification pages 20-22. In contrast, compositions containing water (Example 1); water and alcohol (9.6% alcohol, Example 3); water, alcohol and surfactant (3.7% alcohol, Example 2 and 17.25% alcohol, Example 6); water and ammonia (Example 4) all failed the Evaluation Test Method (*i.e.*, exhibited penetration rates < 0.75 units and removal effectiveness < 90%). For example, Examples 2 and 6 respectively have a removal effectiveness of 10% and 0%, and a rate of penetration of 0.550 and 0.488 units at room temperature.

Thus, Cable does not anticipate independent claims 1, 22-25 and 29, as well as their dependent claims 2-6, 8-20, 27, 28, 30, 31, and 33-36. Accordingly, applicants request that the Examiner withdraw this rejection.

Choy

The Examiner contends that Choy's disclosure provides "a general teaching" of applicants' claim limitation. Office Action, page 3, paragraph 7. In support, Examiner points to the following disclosure in Choy:

"it is preferred to limit the total amount of solvent to no more than 50%, more preferably no more than 25%, and most preferably, no more than 15%, of the cleaner. However, in some of the compositions of the invention, no solvent may be present. A

preferred range is about 1-15%, ..."(emphasis added by the Examiner).

For at least the same reasons discussed above for Cable, Choy does not anticipate applicants' claims. Choy does not provide "sufficient specificity". Rather, it discloses the same nonspecific, broad range of alcohol as disclosed in Cable: no more than 50% (i.e., 0 to 50%) no more than 25% (i.e., 0-25%), no more than 15% (i.e., 0-15%) and none (i.e., 0%). Again, this nonspecific, broad range of alcohol is not the "sufficient specificity" required to anticipate applicants' claimed range.

Moreover, the composition specifically exemplified in Choy contains a much higher alcohol content than applicants' compositions. In Example 1 of Choy, Formulation A has a total alcohol content of at least 8.2% (5.9% isopropanol and 3.2% propyleneglycol t-butyl ether). Nowhere does Choy teach a composition that contains the alcohol content required by applicants' claims.

Thus, Choy does not anticipate independent claims 1, 22-25 and 29, as well as their dependent claims 2-6, 8-20, 27, 28, 30, 31, and 33-36. Accordingly, applicants request that that Examiner withdraw this rejection.

Masters

The Examiner asserts that Masters also contains "a general teaching" of compositions containing the required amounts of surfactant, ammonia compounds and alcohols required by claim 1. Office Action, page 4, paragraph 8. In support of this assertion, the Examiner points to Masters' disclosure that "level of non-aqueous polar solvent is from about 0% to about 40%, preferably from about 1% to about 10% ...".

Masters generically discloses an aqueous cleaning composition comprising a detergent surfactant, a specific anionic surfactant, a cleaning solvent, optional nonionic detergent surfactant and buffer. Masters discloses that three components -- buffer, cleaning solvent and aqueous solvent system -- each may be an alcohol, in addition to a laundry list of alternatives. For example, the cleaning solvent, defined as a solvent having a hydrogen bonding parameter less than 7.7, is any one of the following solvents: hydrocarbon or halogenated hydrocarbon moieties of the alkyl or cycloalkyl type, C₆-C₉ alkyl aromatic

solvents, glycol ethers and diols. The aqueous solvent system is water and a non-aqueous polar solvent, *e.g.*, an alcohol such as methanol, ethanol, ethylene glycol, propylene glycol and mixtures. The buffer is monoethanolamine and/or beta-aminoalkanol.

In addition to disclosing alcohol as an alternative for three different components, Masters discloses that the three components may be present in three distinct ranges. The amount of these components in the composition is as follows: (a) cleaning solvent: from about 1% to about 10%; (b) buffer: from about 0.05 to about 10%; and (c) nonaqueous polar solvent: from about 0% to about 40%. Thus, to arrive at applicants' cleaning composition, it is necessary to select portions of different general teachings within Masters and combine them, *i.e.*, select alcohol as only one component and select it at a minimum amount. For this reason, the skilled artisan would not "at once envisage" applicants' specific cleaning compositions. See, MPEP 2131.02.

Further, Masters does not disclose applicants' claimed range of alcohol with the "sufficient specificity" required for anticipation. As discussed above, Masters generally discloses that each of the cleaning solvent, buffer and nonaqueous polar solvent may be an alcohol, and that each may be present in different ranges, *i.e.*, from about 1% to about 10%, from about 0.05 to about 10, and from about 0% to about 40% for the cleaning solvent, buffer and nonaqueous polar solvent, respectively. Moreover, none of the specific compositions disclosed in Masters fall within applicants' claims. In particular, the compositions taught in Example I contain at least 6.4% alcohol (6.4% propylene glycol monobutyl ether for Formulae 1-3, and 6.4% propylene glycol monobutyl ether and 0.26% monoethanolamine for Formula 4). The compositions of Formulae 1-6 in Table II contain at least 7% alcohol content (4% isopropanol and 3% 7-propylene glycol. The compositions of formulae 7-10 contain at least 5% alcohol content (5% propylene glycol monobutyl ether). The compositions taught in Example III contain at least 8% alcohol content (isopropanol, propylene glycol monobutyl ether). Thus, for the same reasons that Cable and Choy do not anticipate, Masters does not anticipate a range of alcohol from about 0.001% to about 1% by weight of an alcohol and the total alcohol content of no more than about 1% by weight of the composition.

Thus, Masters does not anticipate independent claims 1, 22-25 and 29, as well as their dependent claims 2-6, 8-10, 12-20, 27, 28, 30, 31, and 33-36. Accordingly, applicants request that that Examiner withdraw this rejection.

Church

The Examiner asserts that Church generally teaches in claim 1:

"a water based cleaning composition consisting essentially of water on the order of about 59.3 to about 99.58 weight percent, a cleaning agent selected from the group consisting of ammonium hydroxide, a monohydroxy alcohol containing no more than 3 carbon atoms and mixtures thereof on the order of 0.31 to about 40.3 weight percent plus an amount of a lubricity compound comprises of a water soluble alkyl derivative of ethylene glycol having the formula ROCH_{sub.2}(CH_{sub.2}OCH_{sub.2}).sub.n CH_{sub.2} OR ..."

The generic teaching the Examiner points to in Church claim 1 fails to teach each and every element of applicants' claims. This is at least because the composition claimed by Church does not include a surfactant as a component, as required by applicants' claims.

Further, Church generically teaches a "water based cleaning composition including a major portion of water, a minor portion of a cleaning agent, such as ammonium hydroxide or lower alcohol such as isopropanol and a small portion of a polyethylene and alkoxy polyethylene glycol of high molecular weight and triethylene glycol which not only acts as a lubricant but has a preferential affinity for glass and the like as compared with oil, grease, dirt, and/or a lubricity compound such as ammonium bicarbonate or ammonium carbonate." See, e.g., Church, Abstract. Nowhere does Church teach the compositions more specifically, i.e., in terms of the ranges of the individual components. Rather, Church discloses numerous examples, none of which contain the surfactant, ammonia compound, and alcohol content required by applicants' claims, and contain no more than about 1% total alcohol content.

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Thus, Church does not anticipate independent claims 1, 22-24 and 29, as well as their dependent claims 2-4, 6, 8-20, 27, 28, 30, 31, and 33-36. Accordingly, applicants request that that Examiner withdraw this rejection

Michael

The Examiner has rejected claims 1-36 under 35 U.S.C. § 102(b), as allegedly being anticipated by Michael, United States Patent 5,108,660 (hereinafter "Michael").

The Examiner states that Michael teaches the use of surfactants in amounts ranging from 0.1-5%, the use of solvents including alcohols in amounts ranging from 0.5-20% and the use of various buffering agents including ammonia compounds such as alkanolamines in amounts ranging from 0.05-15%. Applicants traverse.

For at least the same reasons discussed above for Cable and Choy, Michael does not anticipate applicants' claims. Michael discloses a nonspecific, broad range of alcohol: about 0.5 to about 40% and about 1 to about 10%. Again, this broad range of alcohol is not the "sufficient specificity" required to anticipate applicants' claimed range.

Importantly, Michael does not teach or suggest specific compositions with a total alcohol content of no more than about 1%. In particular, the formulation of Example I contains at least about 8% alcohol (7% butoxy propoxy propanol and 1% monoethanolamine). The formulation of Example II contains at least about 8% alcohol (5% isopropanol, 2.5% butoxy propanol and 0.4% monoethanolamine). See also, Examples III-XI, none of which meet applicants' claims.

Thus, Michael does not anticipate claims 1-36. Accordingly, applicants request that that Examiner withdraw this rejection.

The Rejection of Claim 37 Under 35 U.S.C. § 102(b)

The Examiner states that Cable, Choy, Masters, Church and Michael (collectively "the cited patents") anticipate claim 37. The Examiner states that he "is quite familiar with the use of visual inspections to indicate the performance of a cleaning

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product." Office Action, page 5, paragraph 11. The Examiner further states that "a visual inspection would provide a qualitative measure of a composition's ability and rate of penetration."

Applicants have amended claim 37 to expressly recite an element inherent in the original claim. Claim 37, as amended, recites that the rate of penetration and removal effectiveness are calculated.

Applicants' invention, as defined by amended claim 37, is a method for evaluating the effectiveness of a cleaning composition in which the rate of penetration and removal effectiveness are calculated. As explained in applicants' specification, both the rate of penetration and removal effectiveness are calculated by experimental means. For example, the rate of penetration is calculated by experimentally measuring contact angles at a specific position on a glass cover slip for several advancement and recession steps. See, e.g., specification page 18, lines 1-22. The removal effectiveness is calculated as the difference between the weights of the glass slip cover covered with organic soil before and after treatment with the test composition. See, specification page 17, lines 1-23. By calculating the rate of penetration and removal effectiveness in this way, one can objectively evaluate the effectiveness of a multitude of hard surface cleaners. Use of visual inspection alone, by contrast, is subjective and thus can lead to inconsistent results. Because none of the patents cited by the Examiner discloses calculating either the rate of penetration or the removal effectiveness, none of the references renders claim 37 invalid under 35 U.S.C. § 102.

The Rejection of Claim 38 Under 35 U.S.C. § 102(b)

The Examiner has rejected claim 38 under 35 U.S.C. § 102(b) as allegedly being anticipated by Cable, Choy, Masters, and Church.

Without acquiescing to the Examiner's rejection, applicants have canceled claim 38 from the present application. This cancellation renders the rejection moot.

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Conclusion

In view of the foregoing remarks, applicants respectfully request reconsideration and early allowance of the pending claims in this application.

Respectfully submitted,

Nina R. Horan

Pablo D. Hendler (Reg. No. 40,015)
Denise Bergin (Reg. No. 50,581)
Attorneys for Applicants
Nina R. Horan (Reg. No. 47,662)
Agent for Applicants

FISH & NEAVE
Customer No. 1473
1251 Avenue of the Americas
New York, New York 10020-1104
Tel.: (212) 596-9000
Fax: (212) 596-9090